

Integration of Planning, Construction, and Governance: Innovative Practices and Methods of Hangzhou Planning and Development Assessment

MA Xuan, ZHENG Degao, SUN Juan, LI Di

Keywords: planning and development assessment; planning implementation assessment; city health check; planning-construction-governance integration; Hangzhou

CLC Number: TU984 Document Code: A

DOI: 10.16361/j.upf.202502011

Abstract: Since the 20th National Congress of the CPC emphasized 'improving the level of urban planning, construction, and governance, and accelerating the transformation of development models in megacities,' urban planning has increasingly shifted toward a integrated approach. Against the backdrop of routine indicator-based 'annual urban health checks' and ongoing explorations of 'five-year assessments,' this paper proposes the framework of 'Planning and Development Assessment' based on empirical insights from Hangzhou. It differentiates this paradigm from conventional plan implementation evaluations and city health checks. Adhering to the 'Planning-Construction-Governance' integration, this approach facilitates a systemic and long-term diagnostic framework for urban critical issues. It bypasses rigid indicators and departmental boundaries to establish a problem-oriented, action-ready, and multi-departmental strategic mechanism, providing a flexible governance path to improve urban development evaluation and governance efficiency.

** Funded by the National Social Science Fund of China Major Project (Grant No. 24&ZD148). Author profiles: MA Xuan (78520541@qq.com), Deputy Chief Planner and Director, Shanghai Branch of China Academy of Urban Planning and Design (CAUPD); ZHENG Degao, Vice President, CAUPD; SUN Juan, President, Shanghai Branch of CAUPD; LI Di (Corresponding Author, 904190588@qq.com), Engineer, Shanghai Branch of CAUPD.*

Introduction

Regular assessments of urban development, construction, and planning implementation are essential for capturing spatial dynamics, providing feedback to optimize plans, and enhancing governance capacities. Since the Urban and Rural Planning Law (2007) institutionalized periodic plan evaluation, related practices have proliferated. Following the 2018 institutional reforms, the Ministry of Housing and Urban-Rural Development (MOHURD) and the Ministry of Natural Resources (MNR) separately initiated 'city health checks' and 'territorial spatial plan monitoring', introducing the 'annual check-up and five-year assessment' mandate. These assessments have become vital mechanisms for examining urban development efficacy and driving high-quality development.

In alignment with the mandates of the 20th CPC National Congress and the Third Plenary Session of the 20th CPC Central Committee to 'comprehensively elevate the integration of urban-rural planning,

construction, and governance,' traditional isolated practices must evolve toward a synergistic approach. While indicator-driven 'annual health checks' have become regularized, the operational methodology for the 'five-year assessment' remains to be fully defined. Exploring and refining evaluation systems through the integrated lens of planning, construction, and governance will provide critical support for shifting urban development modes and optimizing governance effectiveness. Against this backdrop, this paper introduces a new paradigm of 'planning and development assessment.' Drawing from Hangzhou's recent practice, it explores a mechanism that transcends rigid plans, departmental silos, and static outcomes, offering a practical reference for contemporary urban evaluation.

1 Evolution of the Urban Health Check and Evaluation System

The urban evaluation system originated from implementation assessments of urban master plans, rooted in the conceptualization of planning as public policy. Led sequentially or concurrently by MOHURD and MNR, the institutional evolution has progressed through two major phases: planning implementation evaluation and comprehensive city health check-ups.

1.1 Planning Implementation Evaluation: Pre-requisite for Plan Revision in Rapid Urbanization (Pre-2017)

Prior to the Urban and Rural Planning Law (2008), planning implementation evaluation in China was largely sporadic, with pioneer practices limited to cities like Shenzhen, Shanghai, Guangzhou, and Nanjing. Academic research during this period focused primarily on the public policy attributes of planning evaluation and the introduction of Western theories [cite: 1, 2, 3, 5]. The 2008 law formalized master plan evaluation into a statutory requirement, mandating that local governments periodically evaluate plan implementation, involve experts and the public, and report findings to local people's congresses and the original approval authorities. To operationalize these statutory mandates, MOHURD issued the Trial Measures for the Evaluation of Urban Master Plan Implementation (2009), establishing precise guidelines for organizational bodies, deliverables, and review criteria, recommending a biennial evaluation cycle. Consequently, implementation evaluation became a mandatory prerequisite before initiating any master plan revisions. This requirement gradually extended to regulatory detailed planning [cite: 6], historical and cultural conservation planning [cite: 7], and urban design. Research during this era flourished, covering performance reviews, methodological systems, institutional optimization, and the integration of big data like Location-Based Services (LBS).

During this period, planning evaluation transformed from an uncoordinated exploratory practice into a statutory, institutionalized regime. Its function expanded from a procedural summary justifying plan revision to a forward-looking guide, and from merely measuring 'plan conformity' to deeply diagnosing urban operational dynamics and underlying structural causes.

1.2 Urban Health Checks: Metric-Driven Monitoring Targeted at 'Urban Diseases' (2017–Present)

As China's urbanization shifted into its later stages, mitigating the 'urban diseases' accumulated during rapid growth became a priority. In February 2017, President Xi Jinping explicitly called for the establishment of an urban health check and evaluation mechanism during his inspection of Beijing. In

September 2017, MOHURD issued guidelines for piloting master plan reforms, mandating a regularized 'annual check-up and five-year assessment' cycle. The State Council subsequently integrated these requirements into its official approvals of the Beijing and Shanghai master plans (2016–2035).

Following institutional shifts, the CPC Central Committee and the State Council issued the Opinions on Establishing a Territorial Spatial Planning System and Supervising its Implementation (2019), requiring periodic evaluations to facilitate dynamic adjustments of spatial plans. MNR subsequently launched pilot programs across 107 cities and compiled the Technical Rules for Territorial Spatial Planning City Health Checks and Evaluations. Concurrently, MOHURD initiated its own urban health check pilots in 11 cities (e.g., Shenyang, Nanjing, Xiamen, Guangzhou, Chengdu), focusing on ecological livability, local identity, safety, and vitality. This sample expanded to 59 cities and eventually culminated in a November 2023 directive mandating comprehensive urban health checks across all 297 prefecture-level and higher cities nationwide.

During this phase, two parallel assessment streams emerged: the MNR-led 'Territorial Spatial Planning Health Check'—focusing on spatial compliance and resource allocation—and the MOHURD-led 'City Health Check'—targeting infrastructure gaps, structural deficits, and neighborhood conditions. Compared to older, flexible formats, this era is characterized by data-driven, metric-heavy quantitative evaluation designed to capture a granular view of urban performance.

2 New Requirements and Reconceptualization of Urban Evaluation

2.1 'Planning-Construction-Governance' Integration as the Core of Fine-Grained Urban Governance

The complexity of modern cities requires holistic orchestration across the entire lifecycle of planning, construction, and governance [cite: 4]. Fragmented approaches fail to resolve systemic urban deep-seated issues. Evaluation logic must transition from isolated, single-department metrics toward an integrated multi-dimensional diagnostic process. However, both traditional implementation evaluations and current health checks exhibit silos. They often focus heavily on their respective departmental indicators, generating internal administrative reports with limited practical leverage or binding policy feedback. Furthermore, parallel check-ups by different authorities frequently result in redundant indicator sets, similar calculations, and operational inefficiencies due to institutional fragmentation.

2.2 Maturation of 'Annual Health Checks' and the Gap in 'Five-Year Assessments'

While data collection for annual tracking has matured, establishing a framework for the strategic 'five-year assessment' under the new institutional context remains an ongoing challenge. Unlike annual indicator tracking, a five-year assessment is tasked with evaluating structural, mid-to-long-term development performance. It must align closely with five-year socio-economic development plans, land-use programs, and immediate construction schedules. Hence, building a strategic and operational methodology to assess mid-term urban delivery is crucial for optimizing contemporary urban governance.

3 Planning and Development Assessment: A Flexible Paradigm Shift

If traditional implementation evaluation measures 'plan conformity' and current health checks track 'annual metrics,' the proposed 'Planning and Development Assessment' acts as an integrative bridge connecting spatial planning, project construction, and policy governance (Table 1). It uses long-term strategic judgment to decode complex issues, moving beyond rigid compliance or departmental boundaries to establish a problem-oriented, action-ready, and multi-departmental system characterized by three core traits:

1. **Lifecycle Integration:** It bridges the gap between planning blueprints, construction execution, and governance outcomes, achieving a full-chain diagnosis from spatial layout rationales to regulatory and operational bottlenecks.
2. **Cross-Departmental Action:** It moves away from single-department silos by establishing unified, cross-departmental action frameworks. Rather than merely checking metrics, it evaluates the structural contradictions of urban development under high-quality mandates.
3. **Flexible Governance and Delivery:** It functions as an interactive platform for policy adjustment, balancing stakeholder interests and translating analytical diagnostics into binding, operational agendas.

Table 1: Conceptual Comparison of Urban Evaluation Paradigms

Evaluation Type	Core Scope and Content	Reference / Source
Planning Implementation Evaluation	Compares approved master plans with reality; combines qualitative and quantitative methods to review execution and performance.	MOHURD Trial Measures (2009)
Territorial Spatial Planning Health Check	Follows the 'annual check-up, five-year assessment' model to analyze spatial implementation effectiveness and development stages.	MNR Technical Rules (2021)
City Health Check	Establishes a baseline indicator system across housing, community, block, and city scales to identify structural deficits and address urgent citizen demands.	MOHURD Guiding Opinions (2023)
Planning and Development Assessment	Bypasses rigid indicator constraints; problem-oriented, near-term focused, and integrated across planning, construction, and governance.	Proposed in this Paper

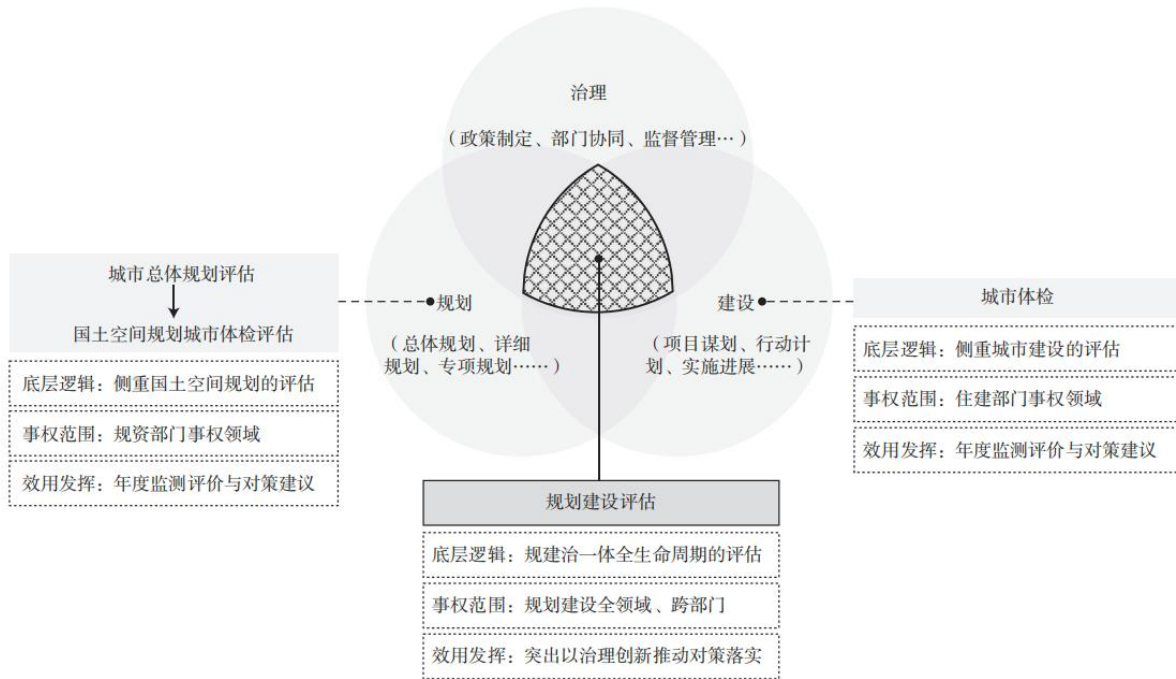


Fig.1 Relationship between "planning and development assessment" and existing health assessment practices

4 Methodological Framework and the Hangzhou Practice

In 2017, Hangzhou evaluated its previous master plan, providing baseline insights for its subsequent spatial plan. From 2020 onward, annual health checks were regularized. However, these metric-heavy assessments often lacked strategic guidance for resolving structural urban issues. In 2023, Hangzhou's GDP surpassed 2 trillion RMB, placing it in the league of megacities. Rapid growth has exacerbated challenges like traffic congestion, climate and safety resilience risks, and localized vitality deficits. In 2022, the municipal government mandated a strategic evaluation of structural challenges in rapid planning and construction. This round of evaluation focused on six core dimensions: population, housing, and public facilities; spatial, economic, and land efficiency; historical and cultural conservation; ecological protection and safety resilience; transport and commuting characteristics; and planning transmission and implementation mechanisms. Built upon multi-source big data diagnostics, the study operationalized a paradigm shift based on three pillars: platform precedence, multi-dimensional integration, and action-oriented delivery.

4.1 Platform Precedence: Big Data and Precise Spatial Profiling

To handle megacity dynamics, Hangzhou built an integrated spatial analysis platform using building footprints, LBS tracking for 12 million residents, and 80,000 corporate registries. This setup allowed the city to move beyond static data and perform advanced spatial diagnostics across three dimensions:

Spatial Order: Combining 2D land-use and 3D building data allowed the city to map height, density, and floor area ratios (FAR). Diagnostics within the Ring Road (绕城高速) revealed that over 50% of plots

maintain a moderate-high density (FAR 1.0–2.5), but also highlighted where height controls lacked coordination with local urban identity.

Economic Productivity: By matching corporate registries with specific land parcels, the platform mapped industrial output against land lease terms. Overlapping 20,000 industrial firms with 300 sq km of industrial land helped identify low-efficiency parcels and outdated economic structures.

Human Behavior: Using LBS data alongside 50,000 POI nodes allowed the city to map commuting patterns and facility access. For example, the West Hangzhou Sci-Tech Innovation Corridor showed balanced jobs-housing ratios on paper, but LBS diagnostics revealed heavy commuting flows to the urban core. This insight shifted the strategy from adjusting land uses to prioritizing high-speed transit. The data also highlighted spatial mismatches between aging populations and elderly care facilities, as well as youth clusters and affordable housing supply.

4.2 Transcending 'Planning': Full-Lifecycle Evaluation

The assessment used an integrated lens to trace problems back to their source, whether in planning, construction, or governance:

Integrated Diagnosis: In one district, a severe shortage of youth housing was identified. The analysis showed that while planning errors (like low coupling with metro stations) and construction delays played a role, the main issue lay in governance. Under the municipal-to-district quota allocation model, local authorities preferred using premium transit-adjacent land for commercial housing to maximize revenues, which caused a mismatch with actual youth employment inflows.

Integrated Solutions: To resolve the housing mismatch, the assessment proposed a coordinated strategy. In planning, it recommended raising affordable housing to over 40% of new residential stock. In construction, it prioritized supply around transit nodes and job centers. In governance, it introduced a dynamic adjustment mechanism tied to youth employment inflows, alongside strategies to convert vacant public assets into affordable housing units.

4.3 Transcending 'Departments': Holistic Cross-Sector Coordination

Past surveys show that 64% of Chinese cities face difficulties securing cross-departmental cooperation during plan evaluations. To overcome this, the assessment used the Municipal Planning Commission platform to build a shared action framework around three main pillars:

Joint Review and Approval: To address fragmented cultural heritage management, the assessment established a joint review mechanism between the Cultural Relics Bureau and the Planning Bureau. This system integrates conservation boundaries directly into statutory detailed plans.

Joint Implementation: Resolving the affordable housing deficit required a coordinated response: the Planning Bureau secured land allocation, the Construction Bureau accelerated building schedules through urban renewal programs, and the Housing Administration converted underutilized public properties into housing stock.

Joint Policy Formulation: To fix inefficient, scattered industrial land, the Development and Reform Commission, the Planning Bureau, and the Economic and Information Bureau jointly launched policies for industrial park renewal, streamlining land redevelopment processes across the city.

4.4 Transcending 'Static Outcomes': Interactive Governance Platforms

The assessment transformed planning evaluation from a static report into an interactive platform for continuous policy refinement:

Policy Briefings: The study submitted three strategic policy briefings directly to municipal leadership, securing executive endorsements that prompted immediate departmental action. For instance, the Housing Bureau audited affordable housing inventories, while the Planning Bureau initiated studies on tiered detailed planning.

Multi-Tier Coordination: Regular vertical and horizontal consultations catalyzed major initiatives, including the drafting of the Special Plan for Urban Renewal and adding strict conservation controls to the Grand Canal Core Area Spatial Guidelines.

Actionable Task Lists: The evaluation concluded with an operational matrix detailing 20+ action tasks across 21 municipal departments and 13 districts. Approved by the Municipal Planning Commission, each task specified lead agencies and strict deadlines to ensure accountability.



Fig.2 Technical framework of Hangzhou's planning and development assessment

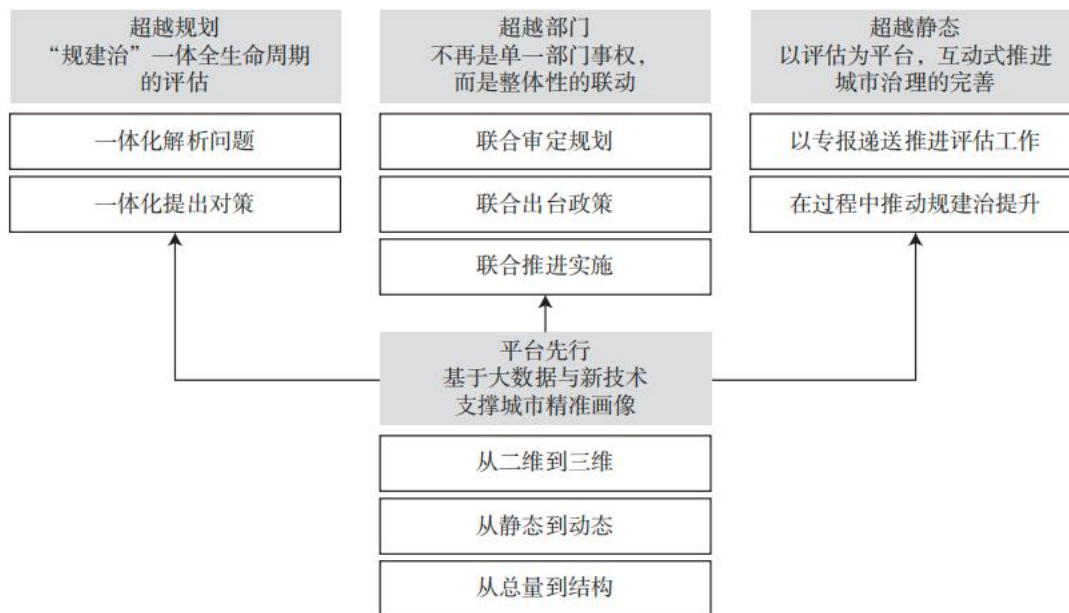


Fig.3 Logical framework of planning and development assessment

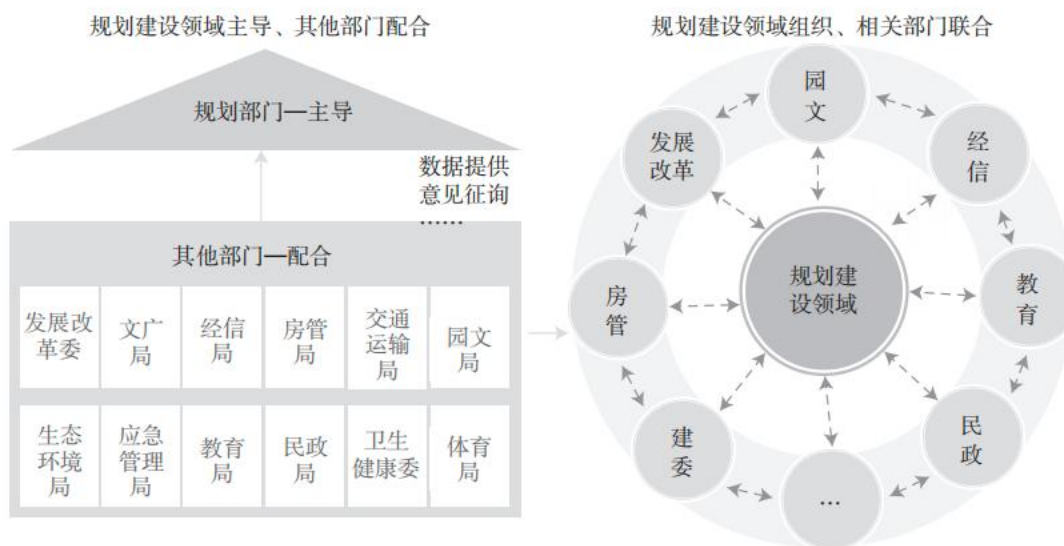


Fig.4 Illustration of cross-departmental coordination in planning and development

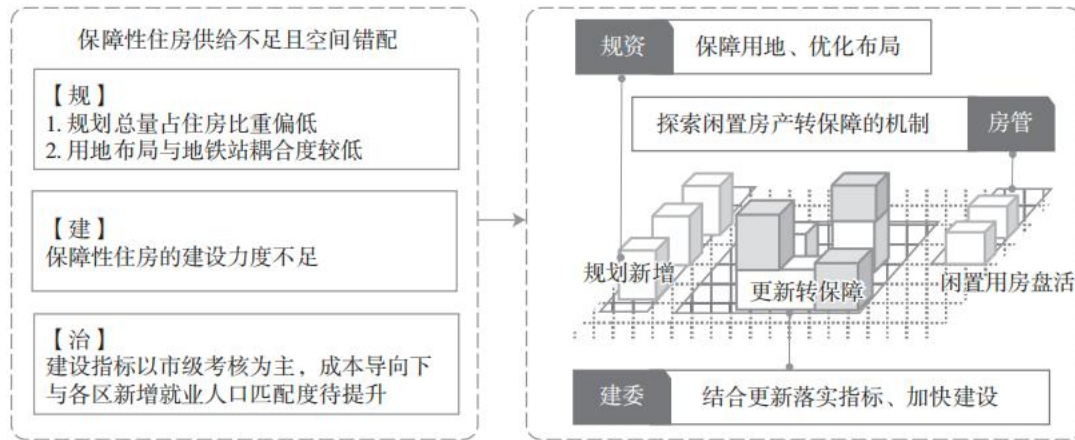


Fig.5 Integrated "planning-development-governance" approach: multi-departmental strategies for developing affordable housing

5 Conclusion and Discussion

Periodic evaluation is a cornerstone of modern urban planning, offering essential capabilities to review past performance, diagnose root causes, and guide future development. As regularized annual check-ups mature, the flexible framework of 'Planning and Development Assessment' bridges a key gap in strategic mid-term evaluations. Hangzhou's experience demonstrates that combining big data diagnostics with a lifecycle, cross-departmental, and action-oriented approach delivers highly effective urban solutions. While urban dynamics will continue to evolve, anchoring the public-policy function of evaluation will remain essential for driving high-quality, fine-grained urban governance.

Notes

1. According to the Technical Rules (2021), territorial spatial planning health checks evaluate development stages and master plan performance through an annual and five-year framework. Per MOHURD's 2023 directives, urban health checks focus on identifying urban structural bottlenecks across housing, community, block, and city scales to drive targeted urban renewal.
2. For example, the MNR indicator framework includes 6 first-tier, 23 second-tier, and 122 third-tier indicators focused on safety, innovation, and green development. The MOHURD system uses 61 indicators across four spatial scales.
3. Job-housing classifications: Balanced areas have a jobs-housing ratio > 0.5 with internal commuting $> 70\%$. Core-connected areas show a ratio > 0.5 , internal commuting $> 70\%$, and core commuting $> 15\%$. Weak employment areas maintain a ratio < 0.5 .

References

- [1] SUN Shiwen, ZHOU Yu. Theory and Method of Urban Planning Implementation Evaluation [J]. Urban Planning Forum, 2003(2): 15-20.

[2] ZHOU Kehui, JIANG Jinsong. Review on Western Urban Planning Evaluation [J]. Urban Planning Journal, 2013(1): 104-109.

[3] LÜ Xiaobei, WU Wei. Preliminary Study on the Evaluation Mechanism of Urban Planning Implementation [J]. City Planning Review, 2006(11): 41-45.

[4] ZHAO Min, ZHANG Xuchen. Evolutionary Process and Efficient Operation of Urban Health Check-ups and Evaluation: From the Perspective of Public Policy Process [J]. City Planning Review, 2022, 46(8): 65-74.

[5] ZHAO Min. On the Implementation of Urban Planning [J]. Urban Planning Forum, 2000(4): 28-31.

[6] TANG Hairu, CHEN Wei, CHEN Tianming. Method of Formulating Implementation Evaluation Reports for Regulatory Detailed Planning [J]. City Planning Review, 2015, 39(S1): 86-90.

[7] CHEN Yue. Evaluation Method of Implementation Process of Historical and Cultural Village Conservation Planning: A Case Study of Ningbo [J]. Urban Planning Journal, 2016.

(AI 辅助翻译)